



Attorney Docket No.: A-66566-3/RFT/RMS/RMK

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

re Application of:

BLACKBURN et al.

Serial No. 09/440,371

Filed: November 12, 1999

For: BINDING ACCELERATION
TECHNIQUES FOR THE
DETECTION OF ANALYTES

Examiner: Not Yet Assigned

Group Art Unit: 1643

CERTIFICATE OF MAILING

I hereby certify that this correspondence, including listed enclosures, is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, DC 20231 on:

Dated:

Signed:

Christine P. Peters

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT
AND
STATEMENT OF RELATEDNESS

Assistant Commissioner
for Patents
Washington, DC 20231

Sir:

In satisfaction of the duty of disclosure under 37 C.F.R. § 1.56, and in accordance with the provisions of 37 C.F.R. §§ 1.97 and 1.98, Applicant wishes to draw the attention of the U.S. Patent and Trademark Office to the references cited on the accompanying form I TO-1449. Copies of the references are enclosed.

With respect to patent applications, the applicants point out their duty under M.P.E.P. §2001.06(b) to disclose relevant patent applications of which they are aware. To this end, the applicants draw the Examiner's attention to the following patent applications;

RECEIVED
OCT 16 2001
TC 17:00

Serial No.: 09/440,371

Filed: November 12, 1999

1. U.S.S.N. 09/134,058, filed August 14, 1998, now Patent Number 6,290,839; U.S.S.N. 09/338,726, filed June 23, 1999, now Patent Number 6,264,825; U.S.S.N. 09/520,477, filed March 8, 2000; and U.S.S.N. 09/712,792, filed November 13, 2000.
2. United States Serial Number 08/743,798, filed November 5, 1996, now Patent Number 6,096,273; U.S.S.N. 08/873,978, filed June 12, 1997; U.S.S.N. 08/899,510, July 24, 1997, now Patent Number 6,221,583; U.S.S.N. 08/911,085, filed August 14, 1997, now Patent Number 6,090,933; U.S.S.N. 09/557,577, filed April 21, 2000; and U.S.S.N. 09/577,429, filed May 22, 2000.
3. U.S.S.N. 08/873,597, filed June 12, 1997; U.S.S.N. 08/911,589, filed August 14, 1997, now Patent Number 6,232,062; and U.S.S.N. 09/660,374, filed September 12, 2000.
4. U.S.S.N. 09/096,593, filed June 12, 1998.
5. U.S.S.N. 08/873,977, filed June 12, 1997, now Patent Number 6,013,459; 09/096,504, filed June 12, 1998, now Patent Number 6,013,170; U.S.S.N. 09/417,988, filed October 13, 1999, now Patent Number 6,248,229; U.S.S.N. 09/841,809, filed April 24, 2001.
6. U.S.S.N. 09/397,957, filed September 17, 1999.
7. U.S.S.N. 09/014,304, filed January 27, 1998, now Patent Number 6,063,573.
8. U.S.S.N. 09/135,183, filed August 17, 1998.
9. U.S.S.N. 09/306,653, filed May 6, 1999 and U.S.S.N. 09/452,277, filed February 3, 1999.
10. U.S.S.N. 09/428,155, filed October 27, 1999.
11. U.S.S.N. 09/295,691, filed April 21, 1999.
12. U.S.S.N. 09/472,657, filed December 27, 1999.
13. U.S.S.N. 09/245,105, filed January 27, 1999.

Serial No.: 09/440,371

Filed: November 12, 1999

14. U.S.S.N. 08/166,036, filed December 10, 1993, now Patent Number 5,591,578; U.S.S.N. 08/475,051, filed June 7, 1995, now Patent Number 5,824,473; U.S.S.N. 08/660,534, filed June 7, 1995, now Patent Number 5,770,369; U.S.S.N. 08/659,987, filed June 7, 1996, now abandoned; U.S.S.N. 08/709,265, filed September 6, 1996, now Patent Number 5,705,348; U.S.S.N. 08/709,263, filed September 6, 1996, now Patent Number 5,780,235; U.S.S.N. 08/873,598, filed June 12, 1997, now Patent Number 5,952,172; U.S.S.N. 08/946,679, filed October 8, 1997, now Patent Number 6,087,100; U.S.S.N. 09/100,507, filed June 19, 1998, now Patent Number 6,071,699; U.S.S.N. 09/306,749, filed May 7, 1999; U.S.S.N. 09/306,737, filed May 7, 1999, now Patent Number 6,177,250; U.S.S.N. 09/306,768, filed May 7, 1999, now Patent Number 6,277,576; U.S.S.N. 09/454,498, filed December 6, 1999, now Patent Number 6,268,149; U.S.S.N. 09/459,751, filed December 10, 1999, now Patent Number 6,268,150; U.S.S.N. 09/459,191, filed December 10, 1999, now Patent Number 6,180,352; U.S.S.N. 09/454,497, filed December 6, 1999, now Patent Number 6,200,761; U.S.S.N. 09/458,187, filed December 8, 1999, now Patent Number 6,238,870; U.S.S.N. 09/545,227, filed April 7, 2000, now Patent Number 6,258,545; and U.S.S.N. 09/602,618, filed June 22, 2000; U.S.S.N. 09/845,746, filed April 30, 2001; and U.S.S.N. 09/866,067, filed May 23, 2001.

15. U.S.S.N. 09/238,351, filed January 27, 1999 and 09/621,275 filed July 20, 2000.

None of the foregoing references are believed to disclose the invention as claimed. Nothing herein shall constitute an admission concerning the contents of any of the cited references, nor shall the inclusion of a reference herein be considered an admission that the reference constitutes prior art against the invention claimed in the above-identified application.

Serial No.: 09/440,371

Filed: November 12, 1999

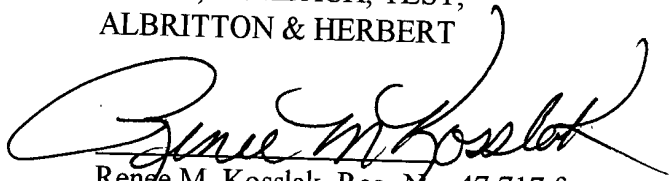
Submission of the present document shall not be construed as an admission that a search has been made or that better art does not exist.

This Information Disclosure Statement is being filed within three months of the filing date of a national application, within three months of the date of entry of a national stage, or before the mailing date of a first Office Action on the merits, 37 C.F.R. § 1.97(b), and therefore no fee is required. The Commissioner is authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 06-1300 (Our Order No. A-66566-3/RFT/RMS/RMK).

Respectfully submitted,

FLEHR, HOHBACH, TEST,
ALBRITTON & HERBERT

Dated: 10/8/01



Renee M. Kosslak, Reg. No. 47,717 for
Robin M. Silva, Reg. No. 38,304

Four Embarcadero Center
Suite 3400
San Francisco, CA 94111-4187
Telephone: (415) 781-1989

Please type a plus sign (+) inside this box → ☐

PTO/SB/8A (08-00)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of 5

Complete if Known

Application Number	09/440,371
Filing Date	November 12, 1999
First Named Inventor	BLACKBURN et al.
Group Art Unit	1643
Examiner Name	Not Yet Assigned
Attorney Docket Number	A-66566-3/RFT/RMS/RMK

U.S. PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
	1	4,704,193		Bowers et al.	11/1987	
	2	4,945,045		Forrest et al.	07/1990	
	3	5,089,112		Skotheim et al.	02/1992	
	4	5,180,968		Bruckenstein et al.	01/1993	
	5	5,242,828		Bergstrom et al.	09/1993	
	6	5,356,786		Heller et al.	10/1994	
	7	5,391,272		O'Daly et al.	02/1995	
	8	5,436,161		Bergstrom et al.	07/1995	
	9	5,443,701		Willner et al.	08/1995	
	10	5,552,270		Khrapko et al.	9/1996	
	11	5,700,667		Marble et al.	12/1997	
	12	5,741,700		Ershov et al.	4/1998	
	13	5,756,050		Ershov et al.	5/1998	
	14	5,770,721		Ershov et al.	6/1998	

FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Office ³	Number ⁴	Kind Code ² (if known)				
	15	WO	86/05815	A1	Genetics International Inc.	3/1985		
	16	WO	97/31256	A3	Cornell Research Found.	08/1997		
	17	WO	97/44651	A1	Australian Membrane and Biotechnology Research Institute	11/1997		
	18	WO	97/27329	A1	Univ. of Chicago	7/1997		
	19	WO	97/41425	A1	Pence Inc.	11/1997		
	20	WO	98/27229	A1	Univ. of Chicago	6/1998		
	21	WO	98/28444	A2	Univ. of Chicago	7/1998		
	22	WO	98/51823	A1	Mosaic Technologies	11/1998		

Examiner Signature	Date Considered
--------------------	-----------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English Language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

1063838

Please type a plus sign (+) inside this box → ☐

PTO/SB/8A (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Complete if Known

Application Number	09/440,371
Filing Date	November 12, 1999
First Named Inventor	BLACKBURN et al.
Group Art Unit	1643
Examiner Name	Not Yet Assigned
Attorney Docket Number	A-66566-3/RFT/RMS/RMK

Sheet of 5

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
	23	5,795,453		Gilmartin	08/1998	
	24	5,824,473		Meade et al.	10/1998	
	25	5,837,859		Teoule et al.	11/1998	
	26	5,849,486		Heller et al.	12/1998	
	27	5,851,772		Mirzabekov et al.	12/1998	
	28	5,952,172		Meade et al.	09/1999	
	29	6,060,023		Maracas	05/2000	
	30	6,060,327		Keen	05/2000	
	31	6,096,273		Kayyem et al.	08/2000	
	32	6,071,699		Meade et al.	06/2000	
	33	6,087,100		Meade et al.	07/2000	
	34	6,096,825		Garnier et al.	08/2000	
	35	6,107,080		Lennox	08/2000	
	36	6,177,250		Meade et al.	01/2001	
	37	6,180,352		Meade et al.	01/2001	
	38	6,238,870		Meade et al.	05/2001	
	39	6,200,761		Meade et al.	03/2001	
	40	5,194,133		Clark et al.	03/1993	
	41	5,728,532		Ackley	03/1998	
	42	5,785,789		Gagnon et al.	07/1998	
	43	5,945,286		Krihak et al.	03/1993	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Office ³	Number ⁴	Kind Code ² (if known)				
	44	WO	98/57159	A1	Clinical Micro Sensors, Inc.	6/1997		
	45	WO	98/57319	A1	Clinical Micro Sensors, Inc.	11/1999		
	46	WO	99/29711	A1	Nanogen Inc.	06/1999		
	47	WO	99/67425	A2	Clinical Micro Sensors, Inc.	12/1999		
	48	WO	99/37819	A2	Clinical Micro Sensors, Inc.	07/1999		
	49	JP	6-41183	A2	Mitsubishi Chem Ind.	1997		

Examiner Signature	Date Considered
--------------------	-----------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English Language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

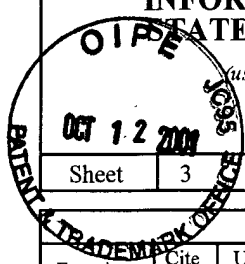
1063838

Please type a plus sign (+) inside this box → ☐

PTO/SB/8A (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Application Number	09/440,371
				Filing Date	November 12, 1999
				First Named Inventor	BLACKBURN et al.
				Group Art Unit	1643
				Examiner Name	Not Yet Assigned
Sheet	3	of	5	Attorney Docket Number	A-66566-3/RFT/RMS/RMK



U.S. PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
	50	6,020,047		Everhart	02/2000	
	51	6,203,758		Marks et al.	03/2001	
	52	5,064,618		Baker et al.	11/1991	
	53	5,098,781		Minnick et al.	03/1992	
	54	5,106,751		Newman	03/1992	
	55	5,505,321		Caron et al.	03/1996	
	56	5,532,128		Eggers et al.	07/1996	
	57	5,552,270		Kraphko et al.	09/1996	
	58	5,657,208		Noe et al.	08/1997	
	59	5,694,932		Michel	08/1999	
	60	5,727,548		Hill et al.	03/1998	
	61	5,741,700		Ershov et al.	04/1998	

FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Office ³	Number ⁴	Kind Code ² (if known)				
	62	WO	93/22678			11/1993		

Examiner Signature	Date Considered
--------------------	-----------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English Language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231. 1063838

Please type a plus sign (+) inside this box → ☐

PTO/SB/8B (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 5

Application Number	09/440,371
Filing Date	November 12, 1999
First Named Inventor	BLACKBURN et al.
Group Art Unit	1643
Examiner Name	Not Yet Assigned
Attorney Docket Number	A-66566-3/RFT/RMS/RMK

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	63	Blonder et al., "Three-dimensional Redox-Active layered Composites of Au-Au, Ag-Ag and Au-Ag Colloids," Chem. Commun. 1393-1394 (1998).	
	64	Boon et al., "Mutation Detection by Electrocatalysis at DNA- Modified Electrodes," Nature Biotechnology, 18: 1096-1100 (October 2000).	
	65	Drobyshev, A. et al., "Sequence Analysis by Hybridization with Oligonucleotide Microchip: Identification of β -thalassemia Mutations," Gene, 188:45-52 (1997).	
	66	Dubiley, S. et al., "Fractionation, phosphorylation and Ligation on Oligonucleotide Microchips to Enhance Sequencing by Hybridization," Nucleic Acids Research, 25(12):2259-2265 (1997).	
	67	Elghanian et al., "Selective Colorimetric Detection of Polynucleotides Based on the Distance-Dependent Optical Properties of Gold Nanoparticles," Science, 277:1078-1081 (1997).	
	68	Fotin, A. et al., "Parallel Thermodynamic Analysis of Duplexes on Oligodeoxyribonucleotide Microchips," Nucleic Acids Research, 216(6):1515-1521 (1998).	
	69	Guschin, D. et al., "Manual Manufacturing of Oligonucleotide, DNA, and Protein Microchips," Analytical Biochemistry, 250:203-211 (1997).	
	70	Guschin, D. et al., "Oligonucleotide Microchips as Genosensors for Determinative and Environmental Studies in Microbiology," 63(6):2397-2402 (1997).	
	71	Hess et al., "Base Pairing Properties of Novel Transition Metal PNA Conjugates," Journal of Inorganic Biochemistry, 74:161 (1999).	
	72	Kamat et al., J. Phys. chem., 93(4):1405-1409 (1989).	
	73	Livshits, M. et al., "Theoretical Analysis of the Kinetics of DNA Hybridization with Gel-Immobilized Oligonucleotides," Biophysical Journal, 71:2795-2801 (1996).	
	74	Mirkin et al., "A DNA-based Method for Rationally Assembling Nanoparticles into Macroscopic Materials," Nature, 382:607-609 (1996).	
	75	Mirzabekov, A. et al., "Dna Sequencing by Hybridization - a Megasequencing Method and a Diagnostic Tool," Tibtech, 12:27-32 (1994).	
	76	Mitchell et al., "Programmed Assembly of DNA Functionalized Quantum Dots," J. Am. Chem. Soc., 121:8122-8123 (1999).	
	77	Mucic et al., "DNA-Directed Synthesis of Binary Nanoparticle Network Materials," J. Am. Chem. Soc., 120:12674-12675 (1998).	

Examiner
SignatureDate
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English Language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

1063838

~~Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.~~

Substitute for form 1449B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)				Complete if Known	
				Application Number	09/440,371
				Filing Date	November 12, 1999
				First Named Inventor	BLACKBURN et al.
				Group Art Unit	1643
				Examiner Name	Not Yet Assigned
				Attorney Docket Number	A-66566-3/RFT/RMS/RMK
Sheet	5	of	5		

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

[illegible]

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English Language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.**

1063838